

Indian Gall Midges (Cecidomyiidae, Dipt.).

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The writer has been privileged, through the courtesy of Prof. Ramakrishna, of South India, to study two small collections of gall midges reared or obtained from the vicinity of various grasses. In addition to data given in a preceding paper,* we would record the rearing of the rice or paddy gall midge, *Pachydiplosis oryzae* Wood-Mason, from *Panicum stagninum*, and the capture of adults referable with very little question to this species, in light traps. The specimens taken in early October, 1916, were heavy with eggs. *Pseudhormomyia fluvialis* Felt was reared, in addition to food plants previously recorded, from *Panicum punctatum*, and both this species and the closely related *P. cornua* are here referred to *Dyodiplosis* Rubs. Below we describe one new species and all the stages of a very interesting midge, the adults previously being unknown and tentatively referred to *Oligotrophus* Latr.

Hormomyia ischaemi Kieff.

1910 Kieffer, J. J. Royal Botanic Gardens Kew, Bull., No. 3, p. 71. (*Oligotrophus*.)

Adults and specimens of the gall of this insect, provisionally referred to *Hormomyia*, were received from Prof. T. V. Ramakrishna, Coimbatore, S. India, under date of November 9, 1916, accompanied by the statement that the insects were reared from a gall on *Ischaemum pilosum* and were very likely identical with the species described from the larva and gall by Dr. Kieffer as *Oligotrophus ischaemi*, which latter is probable though not certain. The larva described by Dr. Kieffer, if this species, is evidently a young stage, since the large size of the midges preclude their developing from such a small full-grown larva.

Gall. Length 11 to 18 cm., diameter 3 to 4 mm. This is a reddish, cylindrical tube pointed at the apex and sheathed at the base by scale-like leaves. The interior is hollow for practically its whole length and emergence is through a small hole near the tip (characters in part from L. A. Boodle, p. 70, *l. c.*).

Egg. Length .2 mm., ovate, cylindrical, whitish and apparently pro-

* Ent. News 28:73-76.

duced in great numbers, since several hundred were found in a vial containing a portion of a gall and one dilapidated female.

Larva. It is probable, as stated above, that the whitish larva described by Dr. Kieffer, *l. c.*, p. 71, is a very young stage or does not belong to this species. A free translation of Dr. Kieffer's description follows:

Larva white, length 2 mm., smooth, the spiny warts very fine and situated on the ventral part of the last two thoracic segments and all of the abdominal segments. The papillae are all simple, save the eight terminal ones, which are provided with very short, scarcely distinct hairs; the pleural and sternal papillae are equally large; the mesial pleural papillae arranged in groups of three; the anterior ventral and posterior papillae small and hardly apparent. Antennal segment rounded, deeply emarginate in the middle, dorsally with sparse granulations on the anterior portion, the posterior part nearly smooth; breastbone yellow, large, sessile, as long as large and with two triangular teeth which have a length twice the width of the base and are separated by a broadly rounded emargination.

Exuvium. ♂. Length 5 mm., moderately stout, yellowish transparent, the thoracic horns slender, slightly curved, nearly cylindrical and with a length about five times the diameter. Antennal cases probably extending to the base of the abdomen and with triangular basal processes with a length about three times the diameter of the base and thickened apically; the wing cases reaching to the tip of the second abdominal segment, and the leg cases to the fifth or sixth abdominal segments; the dorsum of the latter slightly chitinized and with an irregular series of three or four transverse rows of chitinous spines.

♂ Length 3.5 mm. Antennae about as long as the body, thickly haired, yellowish brown; 14 segments, the fifth almost trinodose, the stems with a length $1\frac{1}{4}$ and $1\frac{1}{2}$ times their diameters, respectively; basal enlargement subglobose, with a sparse subbasal whorl of stout setae and a subapical circumfilum, the loops numerous, with a length about half the diameter of the enlargement and forming an almost double row, the latter being true of the middle and distal fili; terminal segment somewhat produced, the basal portion of the stem with a length about twice its diameter, the distal enlargement subcylindric and with a length nearly three times its diameter, and apically a large, fusiform appendage, a rudimentary segment.

Palpi; first segment irregularly ovoid, the second a little longer and stouter, the third more than twice the length of the second and tapering uniformly from a somewhat swollen base. Eyes holoptic.

Mesonotum dark reddish brown. Scutellum concolorous, postscutellum dark reddish brown. Abdomen dark yellowish brown, somewhat variable, the genitalia yellowish; the terminal clasp segment fuscous apically.

Wings subhyaline, brownish, shorter than the body, the third vein uniting with the margin well beyond the apex, the fifth vein joining the posterior margin at the distal fourth, its branch beyond the basal half; halteres yellowish basally, brownish yellow apically.

Coxae reddish brown; legs mostly yellowish brown, the tarsi somewhat darker.

Genitalia; basal clasp segment short, broad, swollen basally; terminal clasp segment moderately long, nearly straight; dorsal plate short, broad, deeply and narrowly emarginate, the lobes narrowly rounded; ventral plate a little longer, broad, broadly rounded apically.

♀ Length 5 mm. Antennae probably three-fourths the length of the body, sparsely haired, dark brown; 14 segments, the fifth with a stem one-fourth the length of the subcylindric basal enlargement, which latter has a length about four times its diameter and low, looped circumfili near the basal third and subapically.

Palpi; first segment irregular, the second a little longer, subquadrate, the third more than twice the length of the second, slender and nearly uniform in diameter.

Mesonotum dark brownish black, the submedian lines sparsely haired. Scutellum and postscutellum concolorous, the former with a few golden hairs apically. Abdomen shining dark brownish black, sparsely clothed with short hairs.

Wings slightly fuscous and only about two-thirds the length of the abdomen, the third vein uniting with the margin just beyond the apex of the wing, the fifth with the indistinct anterior branch joining the posterior margin at the distal fourth and the posterior branch beyond the basal half; halteres yellowish orange basally, fuscous subapically.

Coxae and legs a nearly uniform dark brown; claws moderately stout, strongly curved subapically, simple; pulvilli nearly as long as the claws.

Ovipositor short, the lobes irregularly oval, with a length about one-half greater than the width and rather thickly setose.

Type Cecid. a 2781.

Dyodiplosis andropogonis n. sp.

The species described below was received from Prof. T. V. Ramakrishna, Government Entomologist, Agricultural College and Research Institute, Coimbatore, South India, under date of November 9, 1916, accompanied by a statement to the effect that the midges were reared from galls in a common perennial grass, *Andropogon amulatus*, at Adoni, Bellary District, September 23, 1916, and labeled Y. R. Rao Coll. These insects are similar to though quite distinct from *Pseudhormomyia flu-*

vidalis Felt and *P. cornea* Felt, both received earlier from the same correspondent. These last two species are congeneric with the one to be characterized and now referred to the genus *Dyodiplosis*.

♂ Length 2 mm. Antennae one-half longer than the body, thickly haired, yellowish brown; 14 segments, the stems with a length one and one-fourth and two and one-half times their diameters, respectively, the distal enlargement with a length one and three-fourths greater than its diameter and only slightly constricted near the basal third as compared with *D. fluvialis*. The circumfili are fine and moderately long; terminal segment produced, the basal portion of the stem with a length three times its diameter, the distal enlargement cylindrical, with a length fully three times its diameter and apically a moderately stout, rather long, conical process.

Palpi; first segment short, irregular, with a length about one-half greater than its diameter, the second a little longer and broader, the third about as long as the two preceding, more slender.

Mesonotum purplish brown, the submedian lines and posterior median areas yellowish. Scutellum and postscutellum mostly pale yellowish. Abdomen sparsely haired, a variable dark brown basally, yellowish brown apically.

Wings hyaline; halteres yellowish basally, light brown apically.

Legs mostly a pale straw.

Genitalia; basal clasp segment moderately long, stout; terminal clasp segment distinctly swollen basally, tapering; dorsal plate deeply and triangularly emarginate, the divergent lobes narrowly rounded; ventral plate long, broad, subtruncate apically, the posterior border slightly and roundly emarginate; style a little longer than the ventral plate.

♀ Length 3 mm. Antennae nearly as long as the body, sparsely haired, dark reddish brown; 14 segments, the fifth with a stem one-third the length of the cylindrical basal enlargement, which latter has a length about four times its diameter and sparse whorls of stout setae subbasally and apically; terminal segment hardly produced, the enlargement with a length three and one-half times its diameter and apically a rather broad subconical process.

Abdomen sparsely haired, mostly dark reddish brown, the seventh segment and the lobes of the ovipositor yellowish brown; halteres yellowish basally, reddish brown apically; claws long, rather slender strongly curved apically, the pulvilli a little shorter than the claws.

Ovipositor short, tapering, the lobes with a length over twice the width and tapering irregularly to a narrowly rounded, setose apex. Otherwise as in the male.

Type—Cecid. a 2782.